

EXHIBIT 3
**[UNREDACTED VERSION OF
DOCUMENT SOUGHT TO BE SEALED]**

GrenadaBP SBS SAD Declare



Core Team
April 18, 2012



- **Approve GrenadaBP SBS SAD Declare per following configuration:**
 - **GrenadaBP with LuxorPlus, Dillon and Trunk Code**
 - **Capacity – 1TB, 2TB, 3TB**
 - **Tab Numbers**
 - 1CH162-568
 - 1CH164-568
 - 1CH166-568
 - **PCO**
 - PCO6.2
 - **Code**
 - AB0C0R/xxDE
 - **Material**
 - PCBA - LuxorPlus and Dillon
 - All other material leveraged from Grenada Classic



Functional Organization	Deliverables	Current Status	Risk	Owner	Comments/Actions
1. Phase Exit Milestone Criteria	168-Hr DPPM Goal Achieved	NA	Low Risk		Metric not a requirement for SBS
	Product Stewardship Declaration of Compliance at a minimum of 95% completed.	NA	Low Risk		No 90% PTC required for SBS
	DMT Criteria Met	Achieved	Low Risk	Paul Tedrow	
	All contract items are within variance and projected to remain so	Achieved	Low Risk	Steven Kaczeus	
	Complexity Health Index - Does not deviate from Phase 0 Contract	Achieved	Low Risk	Larry Quilling	
	Component sources defined on the SSP approved to AML level AB. Exceptions have defined/underpinned closure plans. Qualified Sources can support Master Schedule Requirements.	Achieved	Low Risk	Robert J Kolanda	[From Bob Kolanda, 2/6/12] There are no issues for my SBS materials support...All components are at Full approval, key materials watch items are 1D MBA for 4th quarter MS support. I need to complete the following MBA / Baseplate to fully support the MS as it stands now: □ □ Altum baseplate qual by Mar (Q4 commit 1mil) □ NPTR baseplate qual by Mar (Q4 commit 1.3mil). □ Convert 1 Pharaoh NCCP MBA line March / Convert 1 Pharaoh NETL MBA line and 1 new additional line in by March □ Luxor + is single sourced but Drive demand through FQ4 is covered. UMC fab qual will complete in FQ4
	Contamination Management Plan	Achieved	Low Risk		Leveraging Grenada Classic
	Design Engineering Checklists Complete: Mech, Servo, EI, HDIG/ RSS, Firmware, RHMO	Achieved	Low Risk	Paul Tedrow Josh Bingaman	No FW issues for SBS SAD Declare
	Exceptions to previous Phase Review closed	Achieved	Low Risk	Steven Kaczeus	No Exceptions in Previous Phase
	Head Electrical Test Yields meet Phase 0 Targets	Achieved	Low Risk		Leveraging Grenada Classic
	Integration DPPM Goal Achieved	Achieved	Low Risk	Chris R Zeier	1.9K DPPM; SBS SAD Metric is 8K with 4K MAV
	Inventory / Material Disposition □ - Complete roll-up of all Factory and DC pre-SAD config inventory/WIP/FG and Disposition	Achieved	Low Risk	Rodney S Goodson	
	MTBF Achieved	Achieved	Low Risk	Chris R Zeier	118K Validated and 194K Potential. SBS SAD Metric is 100K
	No High Risk Issues □ - All testing applies	Achieved	Low Risk	Paul Tedrow	No High Risk issues identified. All are Low Risk
	PDP Deliverables completed and entered into SLAM database.	Achieved	Low Risk	Steven Kaczeus	
	Platform Integration Strategy (PTI Matrix) Implemented	Achieved	Low Risk	Paul Tedrow	
	Process Readiness Audit and Process Verification Test Results approved by the Volume Factory and Design Center. □ - Includes QA Hardware/Software Readiness □ - Includes Rework Qualification Plan in place with closure by SAD.	Achieved	Low Risk	Jeet S Poonia Paul Tedrow	Factory asking for Yield/DPPM improvement demonstration with PC07.0. Start date WW42 and ECD WW44 □ 1. ODT DPPM plan provided □ 2. YIP plan bridging PC06.2 to PC07.0 complete. □ 3. Leveraging site quals, material quals, and rework qual from Grenada Classic
	Testing Complete - Product Assurance, Firmware/Compatibility & Engineering Regression	Achieved	Low Risk	Chris R Zeier Josh Bingaman Paul Tedrow	
	Throughput Yields and Test Times meet Phase 0 Targets	Achieved	Low Risk	Jeet S Poonia Paul Tedrow Andrew C Wong	Factory asking for Yield/DPPM improvement demonstration with PC07.0. Start date WW42 and ECD WW44 □ 1. ODT DPPM plan provided □ 2. YIP plan bridging PC06.2 to PC07.0 complete.



GrenadaBP SBS SAD Declare Summary

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✓ Core Team Recommendation

- Milestone Criteria has been met with **No Exceptions** → **Approve SBS SAD Declare**

✓ Reli Results (GrenadaBP 1D/2D/3D)

- ODT – **1.9K DPPM** → Metric is **8K DPPM**
- MTBF – **118K Validated; 194K Potential** → Metric is **100K**

✓ Yields and Test Times

- **SAD Yield Target** vs Grenada PCO12.6 and Grenada YIP **was +4%, +8%, +10%; BP yields below are with PCO6.2**
- **Continuing to work LSI/TI yield delta, and, BTC yield difference due to 1 MDW writer contributing to lower yield**

Current Month	Prime Yields			Test Times		HGA Yields		DPPM		MTBF		Current Month BOM TVC (FQ3'FY2012)	
	Grenada	GrenadaBP LSI	GrenadaBP TI	Vol Product	New product	Vol Product	New product	Vol Product	New product	Vol Product	New product	Vol Product	New product
February													
1TB	86%	92%	87%	37Hrs	36Hrs	70%	70%	-	-	-	-	\$ 31.31	\$ 30.97
2TB	78%	81%	75%	69Hrs	67Hrs	70%	70%	-	-	-	-	\$ 46.09	\$ 45.40
3TB	67%	74%	69%	104Hrs	103Hrs	70%	70%	-	-	-	-	\$ 52.37	\$ 51.90
2TB BTC-T	78%	70%	68%	84Hrs	80Hrs	70%	70%	-	-	-	-	\$ 52.37	\$ 51.90
2TB BTC-B	78%	75%	75%	84Hrs	80Hrs	17%	17%	-	-	-	-	-	-
CUM	-	-	-	-	-	87%	87%	1.4K	1.9K	147K	118K	-	-

✓ FW Readiness

- No issues gating release for SBS SAD Declare

✓ Materials

- GrenadaBP is following Grenada/Bacall base program wrt common parts except for LuxorPlus ("AD" release) and Dillon.

✓ Factory

- PCO6.2 to PCO7.0 YIP plan complete per PDP; PCO 7.0 LCO/Factory validation starts WW42 – ECD WW44



Current RDT3 MTBF → 118K demo and 194K potential

PCO 6.2 + new F3 and A7 servo – Cut In Date 4/20

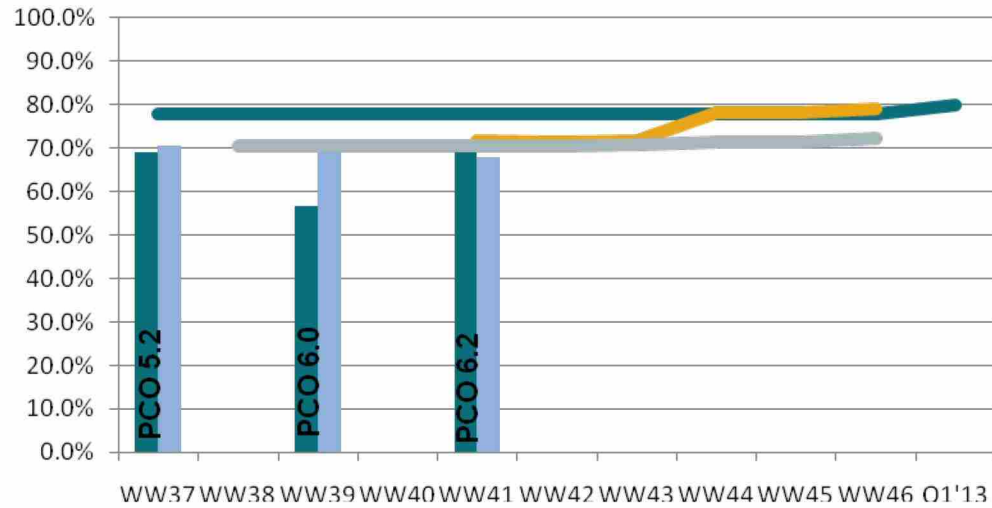
Projected MTBF → 157K demo and 261k potential

PCO 7.0 (target submission to factory on 4/20) – Cut In Date 5/11

Projected MTBF → 169k and 281k



- Grenada BP 3T Actual Output Yield
- Grenada Classic 3T Actual Output Yield
- LRP Grenada BP 3T Budget
- Grenada BP 3T Output Projected Yield
- Grenada Classic 3T Projected Yield



Grenada 3T Yield Improvement Plan					%Eff	RGAFallout	Classic 17.5	OPR	WW37	WW38	WW39	WW40	WW41	WW42	WW43	WW44	WW45	WW46	Q1'13
PCO Release																PCO 7.0			
SCRIPT / SF3																			
EC 10414 Relax T193 CHROME CRRO Limit					50.00%	3.10%	0.33%	PRE2								1.50%			
Opti 20								CAL2								0.10%			
AFH 37.0								CAL2								0.10%			
EC 14869; Disable ATS Seek Failure or Servo Fix					75.00%	1.60%	0.00%	FNC2								1.20%			
EC 48431; Fix for Avg_Iter Fails					50%	0.50%		FNC2								0.25%			
Fix for LSI vs TI Yield Losses					50%	5.00%										2.50%			
EC 10463; Runaway Skip Track Padding on Track 0 TA					66.00%	0.75%		FNC2								0.75%			
EC 11049; ATI Test Hang Fix					95.00%	2.50%		FNC2								0.10%			
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.50%	0.00%	0.00%	
Head																			
EC 14942; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.85%	0.60%	PRE2											
EC 14703; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.50%	0.47%	PRE2											
EC 14925; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.70%	0.00%	PRE2											
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					50.00%	2.15%	1.20%	PRE2							0.25%				
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					50.00%	2.15%	1.20%	CAL2							0.25%				
EC 48394; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.40%	0.28%	CAL2											
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	
Media																			
EC 10446 Media Slurry Changes for BD/Scratch reduction					20.00%	0.50%	0.29%	FNC2											1.00%
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	
Total YIP IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	6.50%	0.00%	1.00%		
PRIME Cumulative Projection YIELD																			
Grenada BP 3T Actual Output Yield									69.0%		56.6%		71.8%						
Grenada Classic 3T Actual Output Yield									70.4%		70.4%		68.0%						
LRP Grenada BP 3T Budget									78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	80%
Grenada Classic 3T Projected Yield										70.4%	70.4%	70.4%	70.4%	70.4%	70.9%	71.4%	71.4%	72.4%	
Grenada BP 3T Output Projected Yield													71.7%	71.3%	71.8%	78.1%	78.1%	79.1%	
%WTF											0.80%		2.45%	3.00%	3.00%	3.00%	3.00%	3.00%	

GrenadaBP DMT Issues

- **Acoustic Latch – 2/5 Failed Spec, 2H Only. 4H and 6H Pass; Low Risk (Passing Acoustic Tests at ODM)**
 - Failed 2.1 spec (2.2-2.3 sones); Passers 1.7-2.1 sones
 - *Servo team investigating retract waveform for any anomaly – Scott Chase*
- **Hot Plug – Failing 1D/2D/3D; No Risk for SBS**
 - Failing due to Kodiak tester/code incompatibility
 - *Bus Trace captured and in SIE for retest/repeatability – John Olivas*



GrenadaBP SBS SAD Declare LCO/Factory Review and Action Items

- **04/17/12 - Per the GrenadaBP SBS SAD Declare review between the LCO Design Center and the Korat Factory Team, it has been agreed that we can move forward with the Factory's Approval for SBS SAD Declare and in parallel will close on the 2 items below. These items are NOT Exceptions to the PDP metrics or SBS SAD Declare milestone checklist**
 1. **2T (BtC) 5H** – The current Grenada Classic and GrenadaBP YIP projections do not meet the latest LRP budget of 81% for Q4'12 and 85% for Q1'13. The teams have agreed to review the projections and either A) correct and revise LRP projections, or B) show a YIP projection beyond PCO7.0 that shows we get to 81% in Q4'12 and 85% for Q1'13.
Owners: Andrew Wong/Jeet Poonia/Paul Tedrow/Chris Browne – ECD 4/20
 2. **TVM Trigger Limit (NOT a PDP Metric)** – Grenada Classic has a current TVM Trigger Limit for Disty/OEM of 97%. Factory wants confirmation that either A) the SBS Trigger Limit is 95%, or B) there is no Trigger Limit for SBS
Status: [4/18/12] Per Reli, TVM Trigger Limit is not applicable to SBS - **CLOSED**



GrenadaBP SBS SAD

Product Name: GrenadaBP SBS

Approval Date: April 18, 2012

Design Center: LCO

Goal: Authorizes SAD Shipments to SBS; Starting WW42

Volume Factory: Korat, Wuxi, Suzhou

Configuration: 1TB, 2TB, 3TB SATA

Design Center Approval:

Steve Kaczeus

Steve Kaczeus

Core Team Lead

4/13/2012

Brent VanDerVliet

Brent VanDerVliet

Exec Dir Prd Eng

4/13/2012

Frank Murphy

Frank Murphy

Dir Reli

4/16/2012

Mike Kepler

Mike Kepler

Exec Dir Materials

4/13/2012

Geoff Gorbould

Geoff Gorbould

Dir, PLM

4/13/2012

Larry Quilling (Mike Foye)

Mike Foye

Ex Dir, TCM

4/13/2012

John Noel (Val LaRoche)

Val LaRoche

Sr. Dir Finance

4/13/2012

Klan Fatt Chong

Klan Fatt Chong

VP Mfg

4/18/2012

Brent VanDerVliet (Jeff Mason)

Jeff Mason

VP Design Engineering

4/13/2012

Exceptions approval for SAD:

Bob Whitmore

EVP, Chief Technology Officer

John Grieci

SVP, Customer Advocacy

Andy Davis

SVP, LCO Design Engineer

GrenadaBP
SAD Approval Document
April 18, 2012

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Back-Up Slides



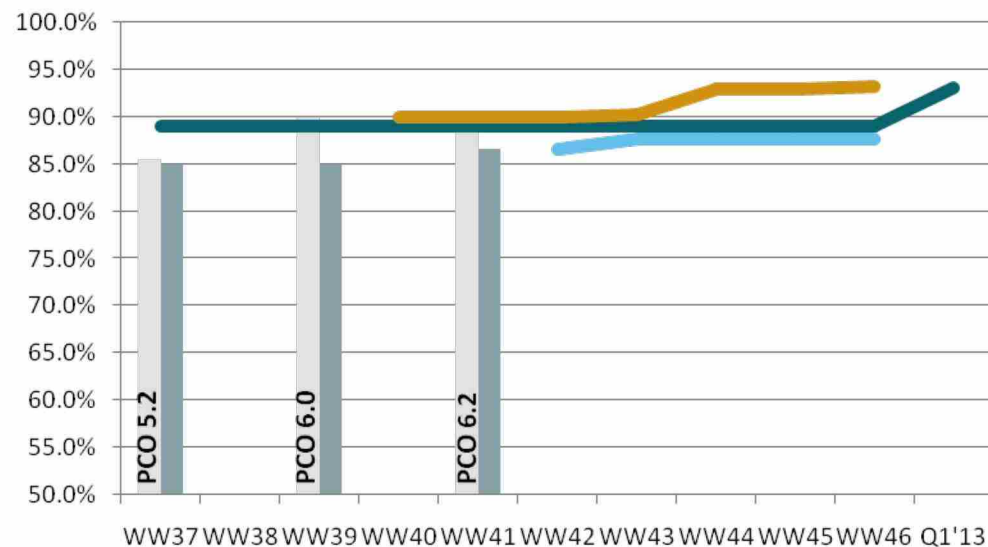
Grenada BP YIP



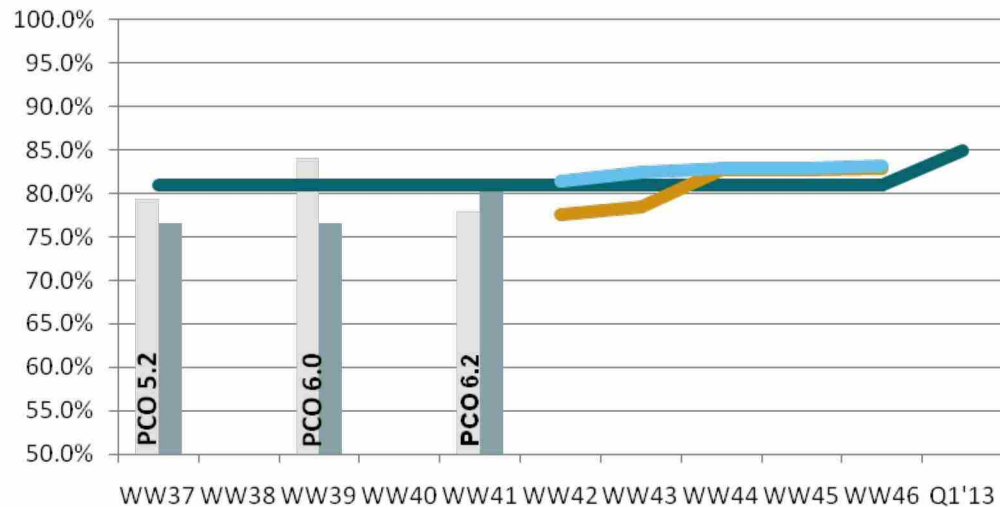
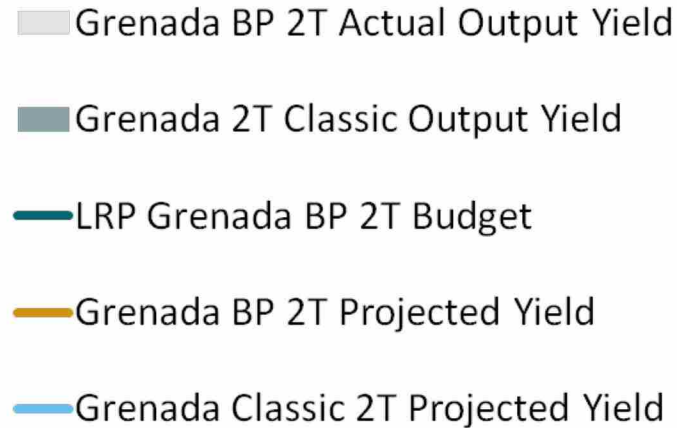
Chris Browne
April 12, 2012



- Grenada BP 1T Actual Output Yield
- Grenada Classic 1T Actual Output Yield
- LRP Grenada BP 1T Budget
- Grenada BP 1T Projected Yield
- Grenada Classic 1T Projected Yield

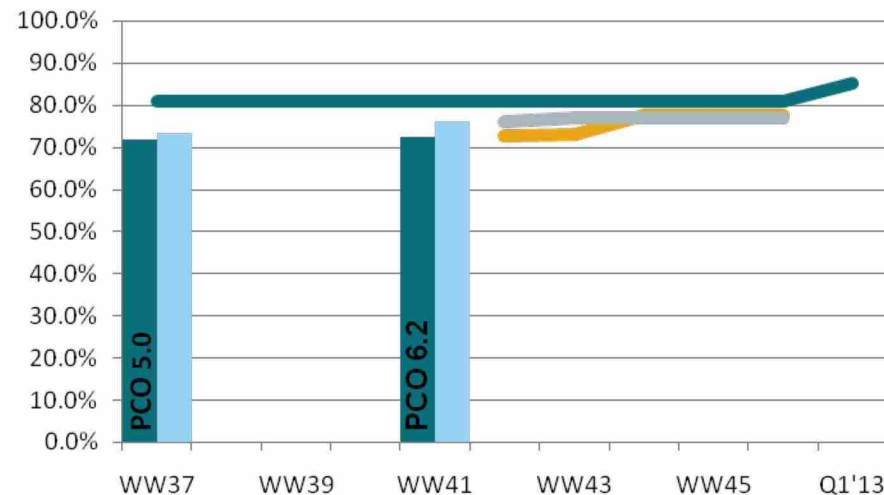


Grenada 1T Yield Improvement Plan			Effectiveness	RGA Fallout	Classic 17.5	OPR	WW37	WW38	WW39	WW40	WW41	WW42	WW43	WW44	WW45	WW46	Q1'13
PCO Release														PCO 7.0			
SCRIPT/ SF3																	
EC 10414 Relax T193 CHROME CRRO Limit			50.00%	0.10%	0.12%	PRE2								0.10%			
Opti 20														0.10%			
AFH 37.0														0.10%			
EC 14869; Disable ATS Seek Failure or Servo Fix			75%	0.42%	0.00%	PRE2								0.20%			
Fix for TI vs LSI Yield Losses			50%	3.00%										1.50%			
EC 48431; Fix for Avg_Iter Fails			50%	0.40%		FNC2								0.20%			
EC 10463; Runaway Skip Track Padding on Track 0 TA			50.00%	0.50%		FNC2								0.25%			
EC 11049; ATI Test Hang Fix			0%	0.40%		FNC2								0.20%			
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.85%	0.00%	0.00%	
Head																	
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF			50.00%	1.80%	0.85%	PRE2							0.25%				
EC 14942; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.49%	PRE2											
EC 14703; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.41%	0.29%	PRE2											
EC 14925; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.41%	0.00%	PRE2											
EC 48394; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.16%	CAL2											
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	
Media																	
EC 10446; TK Slurry Changes for BD/Scratch reduction			20%		0.80%	FNC2										0.25%	
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	
Process																	
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Total YIP IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	2.65%	0.00%	0.25%	
PRIME Cumulative Projection YIELD									90.0%	90.0%	90.0%	90.0%	90.3%	92.9%	92.9%	93.2%	
Grenada BP 1T Actual Output Yield							85.5%		90.0%		89.7%						
Grenada Classic 1T Actual Output Yield							84.9%		84.9%		86.5%						
LRP Grenada BP 1T Budget							89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	89.0%	93%
Grenada Classic 1T Projected Yield											86.5%	87.6%	87.6%	87.6%	87.6%	87.7%	
Grenada BP 1T Projected Yield									90.0%	90.0%	90.0%	90.3%	92.9%	92.9%	93.2%		



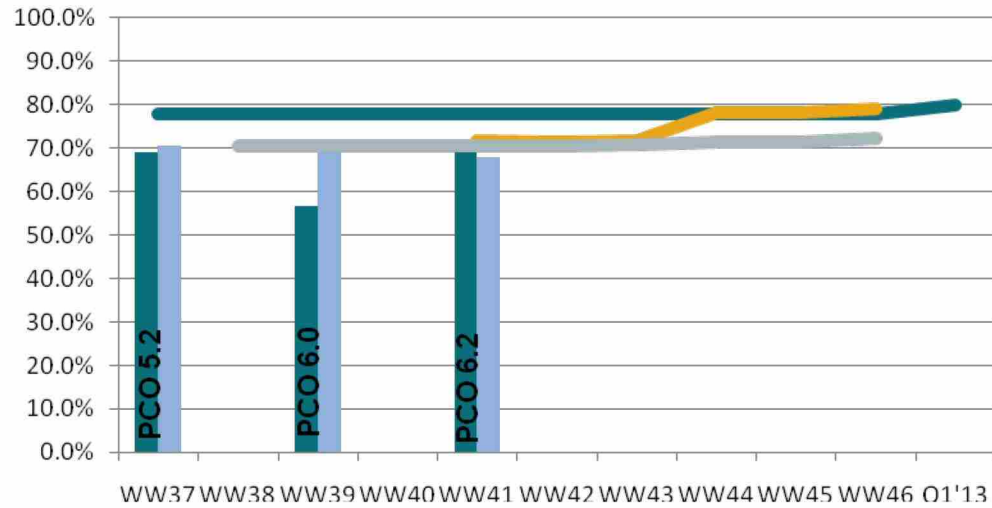
Grenada 2T Yield Improvement Plan			Improvement	RGA Fallout	Classic 17.5	OPR	WW37	WW38	WW39	WW40	WW41	WW42	WW43	WW44	WW45	WW46	Q1'13
PCO Release														PCO 7.0			
Script / SF3																	
EC 10414 Relax T193 CHROME CRRO Limit Opti 20			75%	0.27%	0.25%	PRE2								0.20%			
AFH 37.0						CAL2								0.10%			
EC 14869; Disable ATS Seek Failure or Servo Fix			75%	0.60%	0.00%	PRE2								0.10%			
EC 48431; Fix for Avg_Iter Fails			50%	0.50%		FNC2								0.45%			
Fix for LSI vs TI Yield Losses			50%	5.00%		FNC2								0.25%			
EC 10463; Runaway Skip Track Padding on Track 0 TA			50.00%	1.00%										2.50%			
EC 11049; ATI Test Hang Fix				0.10%		FNC2								0.50%			
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.20%	0.00%	0.00%	
Head																	
EC 14942; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.54%	0.40%	PRE2											
EC 14703; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.20%	0.15%	PRE2											
EC 14925; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.13%	0.00%	PRE2											
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF			40%	1.35%	0.55%	PRE2							0.50%				
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF			40%	1.35%	0.55%	CAL2							0.50%				
EC 48394; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF				0.07%	0.11%	CAL2											
%IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	
Media																	
EC 10446 Media Slurry Changes for BD/Scratch reduction			40%		0.65%	FNC2											0.25%
Total YIP IMP							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	
PRIME Cumulative Projection YIELD											77.9%	77.9%	78.9%	83.1%	83.1%	83.4%	
Grenada BP 2T Actual Output Yield							79.4%			84.0%		77.9%					
Grenada 2T Classic Output Yield							76.6%			76.6%		80.9%					
LRP Grenada BP 2T Budget							81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	85%
Grenada Classic 2T Projected Yield												81.4%	82.4%	82.9%	82.9%	83.2%	
Grenada BP 2T Projected Yield												78%	79%	83%	83%	83%	
%WTF							0.70%	0.70%	0.70%	0.50%	0.00%	0.50%	0.50%	0.50%	0.50%	0.50%	

- Grenada BP 2T btc Actual Output Yield
- Grenada Classic 2T btc Actual Output Yield
- LRP Grenada BP 2T btc Budget
- Grenada BP 2T btc Projected Yield
- Grenada Classic 2T btc Projected Yield



Grenada 2T btc Yield Improvement Plan					Effectiveness	RGA fallout	Classic Mass	OPR	WW37	WW38	WW39	WW40	WW41	WW42	WW43	WW44	WW45	WW46	Q1'13
PCO Release						PCO 5.2	Classic 17.5									PCO 7.0			
Script																			
EC 10414 Relax T193 CHROME CRRO Limit					50.00%	2.00%	0.00%	PRE2								1.00%			
Opti 20								CAL2								0.10%			
AFH 37.0								CAL2								0.10%			
EC 14869; Disable ATS Seek Failure or Servo Fix					75.00%	1.60%	0.00%	FNC2								0.25%			
EC 48431; Fix for Avg_Iter Fails					50%	0.50%		FNC2								0.25%			
Fix for LSI vs TI Yield Losses					50%	3.30%										1.65%			
EC 10463; Runaway Skip Track Padding on Track 0 TA					66.00%	1.50%		FNC2								1.00%			
EC 11049; ATI Test Hang Fix					50.00%	0.40%		FNC2								0.10%			
Head																			
% IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.45%	0.00%	0.00%	
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					1.00%	2.70%	2.34%	PRE2							1.00%				
EC 14942; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF						0.73%	0.78%	PRE2											
EC 14703; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF						0.45%	0.46%	PRE2											
EC 14925; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF						0.89%		PRE2											
EC 48394; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF						0.44%	0.24%	CAL2											
Media																			
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	
EC 10446 Media Slurry Changes for BD/Scratch reduction					0.25%			FNC2											
Total YIP IMP																			
PRIME Cumulative Projection YIELD									71.8%				72.5%	72.5%	73.5%	78.0%	78.0%	78.0%	
Grenada BP 2T btc Actual Output Yield									71.8%				72.5%						
Grenada Classic 2T btc Actual Output Yield									73.2%				75.9%						
LRP Grenada BP 2T btc Budget									81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	81.0%	85%
Grenada Classic 2T btc Projected Yield														75.9%	76.9%	77.0%	77.0%	77.0%	
Grenada BP 2T btc Projected Yield														73%	73%	78%	78%	78%	
%WTF									0.50%	0.50%	0.50%	0.50%	0.00%	0.50%	0.50%	0.50%	0.50%	0.50%	

- Grenada BP 3T Actual Output Yield
- Grenada Classic 3T Actual Output Yield
- LRP Grenada BP 3T Budget
- Grenada BP 3T Output Projected Yield
- Grenada Classic 3T Projected Yield



Grenada 3T Yield Improvement Plan					%Eff	RGAFallout	Classic 17.5	OPR	WW37	WW38	WW39	WW40	WW41	WW42	WW43	WW44	WW45	WW46	Q1'13
PCO Release																PCO 7.0			
SCRIPT / SF3																			
EC 10414 Relax T193 CHROME CRRO Limit					50.00%	3.10%	0.33%	PRE2								1.50%			
Opti 20								CAL2								0.10%			
AFH 37.0								CAL2								0.10%			
EC 14869; Disable ATS Seek Failure or Servo Fix					75.00%	1.60%	0.00%	FNC2								1.20%			
EC 48431; Fix for Avg_Iter Fails					50%	0.50%		FNC2								0.25%			
Fix for LSI vs TI Yield Losses					50%	5.00%										2.50%			
EC 10463; Runaway Skip Track Padding on Track 0 TA					66.00%	0.75%		FNC2								0.75%			
EC 11049; ATI Test Hang Fix					95.00%	2.50%		FNC2								0.10%			
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.50%	0.00%	0.00%	
Head																			
EC 14942; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.85%	0.60%	PRE2											
EC 14703; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.50%	0.47%	PRE2											
EC 14925; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.70%	0.00%	PRE2											
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					50.00%	2.15%	1.20%	PRE2							0.25%				
EC 14841; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					50.00%	2.15%	1.20%	CAL2							0.25%				
EC 48394; AFH Clearance Rolloff - Cleanliness at Slider/HGA/FOF					0.00%	0.40%	0.28%	CAL2											
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	
Media																			
EC 10446 Media Slurry Changes for BD/Scratch reduction					20.00%	0.50%	0.29%	FNC2											1.00%
%IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	
Total YIP IMP									0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	6.50%	0.00%	1.00%		
PRIME Cumulative Projection YIELD																			
Grenada BP 3T Actual Output Yield									69.0%		56.6%		71.8%						
Grenada Classic 3T Actual Output Yield									70.4%		70.4%		68.0%						
LRP Grenada BP 3T Budget									78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	78.0%	80%
Grenada Classic 3T Projected Yield										70.4%	70.4%	70.4%	70.4%	70.4%	70.9%	71.4%	71.4%	72.4%	
Grenada BP 3T Output Projected Yield													71.7%	71.3%	71.8%	78.1%	78.1%	79.1%	
%WTF											0.80%		2.45%	3.00%	3.00%	3.00%	3.00%	3.00%	

ODT Improvement Plan

1TB

KTGBD20402AT	Failure		Corrective Actions	When
Z1D10M8L	NMD	H0, Z1. Single sector, single track	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1D10M9A	NMD(MSD)	H0, ZA. Single sector, single track.	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1D10MH4	NMD(MSD)	H0, Z18. Single sector, two tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1D10N4B	Encroachment,	18kHz	Iris 4.7 suspension.	WW40
Z1D12YXT	NMD	H1, Z17. Single sector, two tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1D12YPX	NMD(MSD)	H0, ZE. Single sector, single track	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40



ODT Improvement Plan

2TB

KTGBD40403AT				When
Z1E0HH6S	18kHz	H2, ZE. Near large slipped sectors.	Determine if slipped sectors are TA's & if so the severity level.	WW43
Z1E0HHBE	Encroachment or Bad write?	H0, Z15.	Further FA, Kelvin Mow	WW43
Z1E0HHAE	NMD	H0, ZB. Single sector, several tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1E0HHLQ	ATH	18kHz		WW40
Z1E0HDM7	NMD	H0, Z1. Single sector, two tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
KTGBD50404AT				
Z2405DLT	NMD	H4, Z1. Single sector, two tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40

3TB

KTGBD60405AT				When
Z1F0JY2L	CND	Restest		
Z1F0JZND	Bad write.	H5, Z1.	Second level FA, LCO	WW46
Z1F0JZ1R	ATH	18kHz	Iris 4.7 suspension	
Z1F0JZMF	NMD	H4, Z2. Single sector, two tracks	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1F0JY43	NMD	H3, Z8	xxDC servo code, PCO 6.0 WW40. Cleanliness actions from Classic BOB evaluations	WW40
Z1F0JZRJ	Hd degrad	Dead head 1	QST	WW46
Z1F0JZIE	Contact modulation, 300kHz	H3, Z1.	Second level FA	WW46



Grenada BP SBS SAD Factory Comments



Thanit Suksawang
Apr 16 ' 2012



❑ **Yields (Based on PCO 6.2 RGA) :**

- ❑ 1TB : LSI yield is better than Grenada Classic and meet Mar Fcst. TI yield is better than Grenada classic but still lower than Mar Fcst by 2%. YIP to meet budget is provided with PCO 7.0 in W44. – [LCO] OK
- ❑ 2TB (Native) : LSI yield is better than Grenada Classic and meet Mar Fcst. TI yield is better than Grenada classic but still lower than Mar Fcst by 6%. YIP to meet budget is provided with PCO 7.0 in W44. – [LCO] OK
- ❑ 2TB (BtC) : Yield is lower than Grenada classic by 4% and Mar Fcst by 9%. **YIP is provided but still show 4% yield lower to budget.** [LCO] 2TB (BtC) YIP has been updated to correct for MDW writer and script issue and shows better than Grenada Classic. Team is fast-following Grenada Classic for additional improvements to meet budget
- ❑ 3TB : LSI yield is better than Grenada classic by 2% but lower than Mar Fcst by 3%. TI yield lower than Grenada classic by 4% and Mar Fcst by 7%. YIP to meet budget is provided with PCO 7.0 in W44. - [LCO] OK

❖ **Test time :**

- ❑ Met budget and lower than Grenada Classic. - [LCO] OK

❖ **LODT :**

- ❑ Test completed on 1TB with 0 dppm on 600 drives. Other capacity result will be on Apr 18.
- ❑ [LCO] PCO5.2 LODT met PDP metrics. ODT improvement plan included in back-up - OK

❖ **Reliability :**

- ❑ TVM showed passer rate at 95-98%. Pls suggest TVM trigger limit for SBS.
- ❑ [LCO] TVM metrics met per PDP. TVM trigger limit not required per PDP checklist - OK

❖ **Factory recommendation.**

- ❑ SMS is recommended for product developments until yields to meet budgets are demonstrated , pending LODT completion for all capacities. Pls advise if there is any business impact.

[LCO] Per SMT, SMS is NOT required since GrenadaBP meets SBS metrics per PDP. Continued ODT, yield, and MTBF improvements for Disty/CTU Declare end of the month are provided in this package. SBS SAD Declare Approved by SMT. CT recommends KF to Approve

Metric Highlights

DPPM:

•Integration

Korat	Wuxi	Suzhou	"RDT3"
NA	NA	NA	1.9K

•Goal:

Gen2	SBS	CTU	SAD	Vol.
20k	15k	4k	2k	500

MTBF:

•Demo:

Validated	Potential
118K	194K

•Goal:

Gen 2:	SBS SAD	SAD
200k	75k	250k

TVM:

Pass Rate	CTU Goal:
1D: 97%	95%
2D: 98%	95%
3D: 95%	95%

FA / Issue Summary

Open PFLs

Total	< 7 Days	7-15 Days	15-21 Days	21-28 Days	> 28 Days
138	8	3	0	0	127

Issues

Total	Open	CA Imp.	CA Ver.	Unresolved
14	1	13	0	13

SSO:

•None

DA:

•None

Next Phase Gate/Schedule

Milestone	Date
SBS SAD	4/13/2012
Apple CTU SMS	4/13/2012

Issues

•Integration DPPM – 1075 tested with 2 failures 1.9K

- RDT 3.0: 1073 Drives with GPF27x.CCD4.AB090R.ZZZZ + x7DC Servo @ 661 Hours, 32 failures
- Command Completion Timeouts -13
- New Defects-5
- Bad Write with LSI Preamp-2
- Can Not Duplicate-2
- Head Instability-2
- Bad Write with TI Preamp-1
- Faulty servo Controller Chip-1
- Dynamic Spare/Alt Bug-1
- Firmware-Trap Error-1
- Fly Height Modulation, Write-1
- Skip Write-1
- SLT 05 Plating Bath-1
- Weak Write-1

Gen 2 TVM

•116 drives Completed TVM!

• Open Issues:

- 1X 4H failure for EC 7 S/N Z1E0HHL8 (SOF263277)
- 3X 6H failure for EC 36 S/N Z1F0J83W (SOF262999)
- EC 216 S/N Z1F0K0SL (SOF264245) Performance Degradation
- EC 7 S/NZ1F0K0ER (SOF263764)

Near-term Schedule



GrenadaBP SBS SAD Declare

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Grenada BP RDT 3.0 Desktop MTBF/FE

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Grenada BP RDT 3.0 MTBF/FE Table					Updated: 4/12/12 12:00 AM				
AFR (1st year Weibull)	2.942%	From all fails Weibull MLE			1068	QTY_TESTED			
MTBF (1st year Weibull)	80365.8								
Minimum AFR:	0.050%	From zero fail Weibull @ 50% CL			2400	POH/Year			
Total Number of Failures	32				0.4819208	Weibull Beta			
AFR for 1 failure	0.090%	AFR decrease per failure @ 100% fix effectiveness			661	Average Test Hours			
Issue	Corrective Action	Fix Validation	# of Failures	% Fail	Eff. Factors		Reduced AFR		PFL/TTF
					Demo'd	Potential	Demo'd	Potential	
Command Completion Timeout EC 805	CA: SID CLK set to 700MHz		13	1.175%	70%	100%	2.120%	1.767%	SUZ-7461/170,SUZ-7463/116,SUZ-7462/276,SUZ-7464/106,SUZ-7542/238,SUZ-7543/83,SUZ-7441/86,SUZ-7442/83,SUZ-7541/201,SUZ-7701/261,SUZ-6451/40,SUZ-8143/183,SUZ-7702/262
New Defect	BOB5 cleanliness		5	0.452%	0%	40%	2.942%	2.761%	SUZ-6982/118,SUZ-6981/122,SUZ-7681/312,SUZ-6601/86,SUZ-6622/108
Bad Write with LSI Preamp	03/27 CA (potential) Classic's stress opti (Opti19.5)		2	0.181%	0%	100%	2.942%	2.761%	SUZ-6721/114,SUZ-6452/53
Can Not Duplicate			2	0.181%	0%	0%	2.942%	2.942%	LCO-7821/370,SUZ-8344/476
Head Instability			2	0.181%	0%	0%	2.942%	2.942%	SUZ-6621/72,SUZ-8145/353
Bad Write with TI Preamp	CA: new write triplets and write-current backoff at hot (62-63°C)		1	0.090%	95%	100%	2.856%	2.852%	LCO-6367/16
Dynamic Spare/Alt. Bug			1	0.090%	0%	0%	2.942%	2.942%	SUZ-8144/356
Faulty servo controller chip (Dillon)			1	0.090%	0%	0%	2.942%	2.942%	LCO-6967/0
Firmware, Trap Error			1	0.090%	0%	0%	2.942%	2.942%	LCO-7161/222
Fly Height Modulation, Write			1	0.090%	0%	0%	2.942%	2.942%	SUZ-6453/25
Skip Write			1	0.090%	0%	0%	2.942%	2.942%	SUZ-7421/278
SLT 05 Plating Bath	ISI shows high asymmetry -- CA: heater ON in ISI testing starting WW43		1	0.090%	40%	100%	2.906%	2.852%	SUZ-6448/35
Weak Write			1	0.090%	0%	0%	2.942%	2.942%	LCO-6681/6
		Total Number of Fails	32		Reduced AFR :		2.00%	1.22%	
					Corresponding MTBF :		118K	194K	



Grenada BP RDT 3.0 MTBF/FE Table

Updated: 4/12/12 12:00 AM

168hr DPPM 16,854

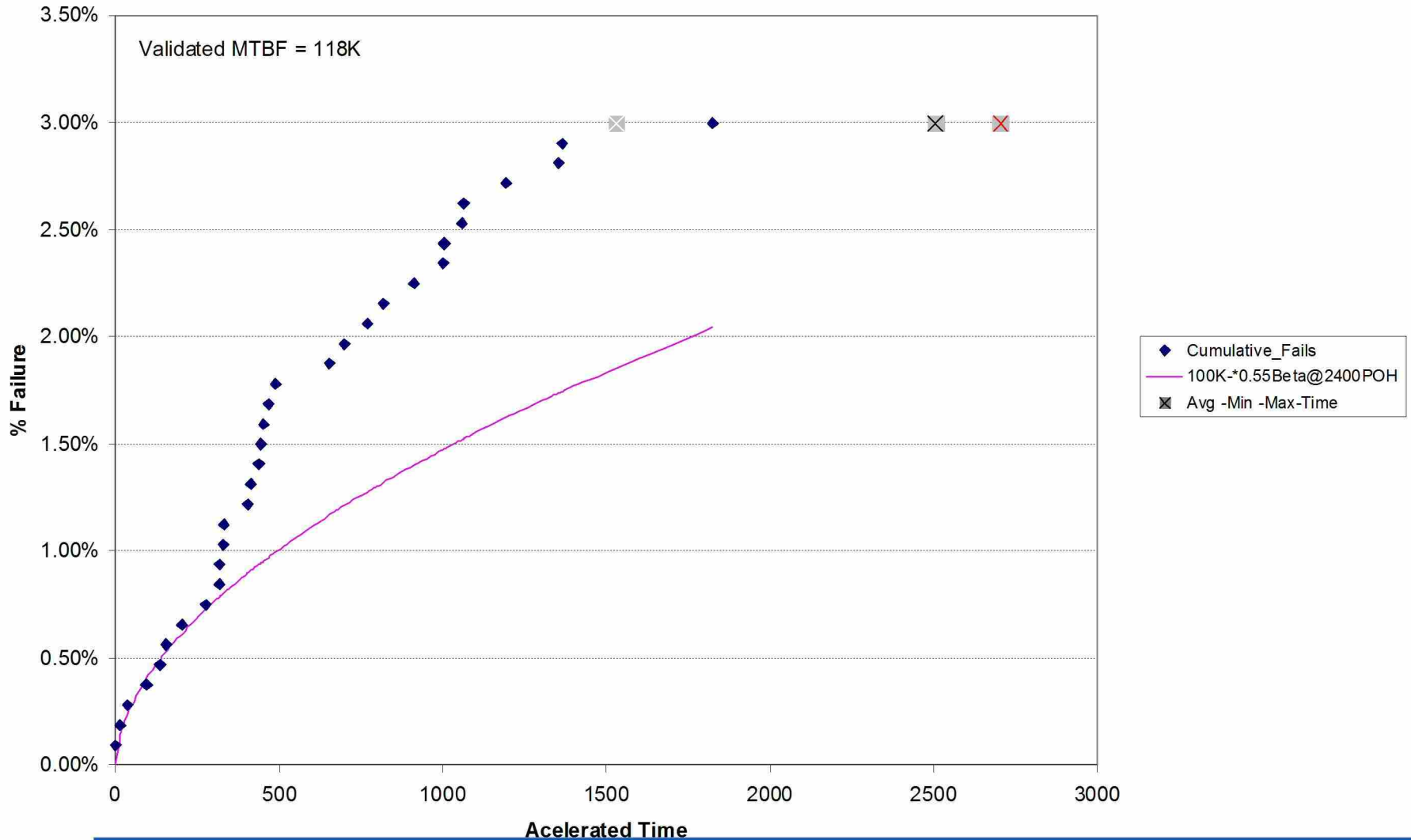
Total Number of Failures 18

661 Average Test Hours

Issue	Corrective Action	Fix Validation	# of Failures	% Fail Attribued to DPPM	Fix Eff Factors		DPPM Reduced by		PFL/TTF
					Demo'd	Potential	Demo'd	Potential	
Command Completion Timeout EC 805	CA: SID CLK set to 700MHz		6	33.333%	70%	100%	3932.58	5617.98	SUZ-7463/116,SUZ-7464/106,SUZ-7543/83,SUZ-7441/86,SUZ-7442/83,SUZ-6451/40
New Defect	BOB5 cleanliness		4	22.222%	0%	40%	0.00	1498.13	SUZ-6982/118,SUZ-6981/122,SUZ-6601/86,SUZ-6622/108
Bad Write with LSI Preamp	03/27 CA (potential) Classic's stress opti (Opti19.5)		2	11.111%	0%	100%	0.00	1872.66	SUZ-6721/114,SUZ-6452/53
Bad Write with TI Preamp	CA: new write triplets and write-current backoff at hot (62-63°C)		1	5.556%	95%	100%	889.51	936.33	LCO-6367/16
Faulty servo controller chip (Dillon)			1	5.556%	0%	0%	0.00	0.00	LCO-6967/0
Fly Height Modulation, Write			1	5.556%	0%	0%	0.00	0.00	SUZ-6453/25
Head Instability			1	5.556%	0%	0%	0.00	0.00	SUZ-6621/72
SLT 05 Plating Bath	ISI shows high asymmetry -- CA: heater ON in ISI testing starting WW43		1	5.556%	40%	100%	374.53	936.33	SUZ-6448/35
Weak Write			1	5.556%	0%	0%	0.00	0.00	LCO-6681/6
Total Number of Fails			18	DPPM Reduced To :		11,657	5,993		



TTF Plot of Actual vs simulated Test Hours



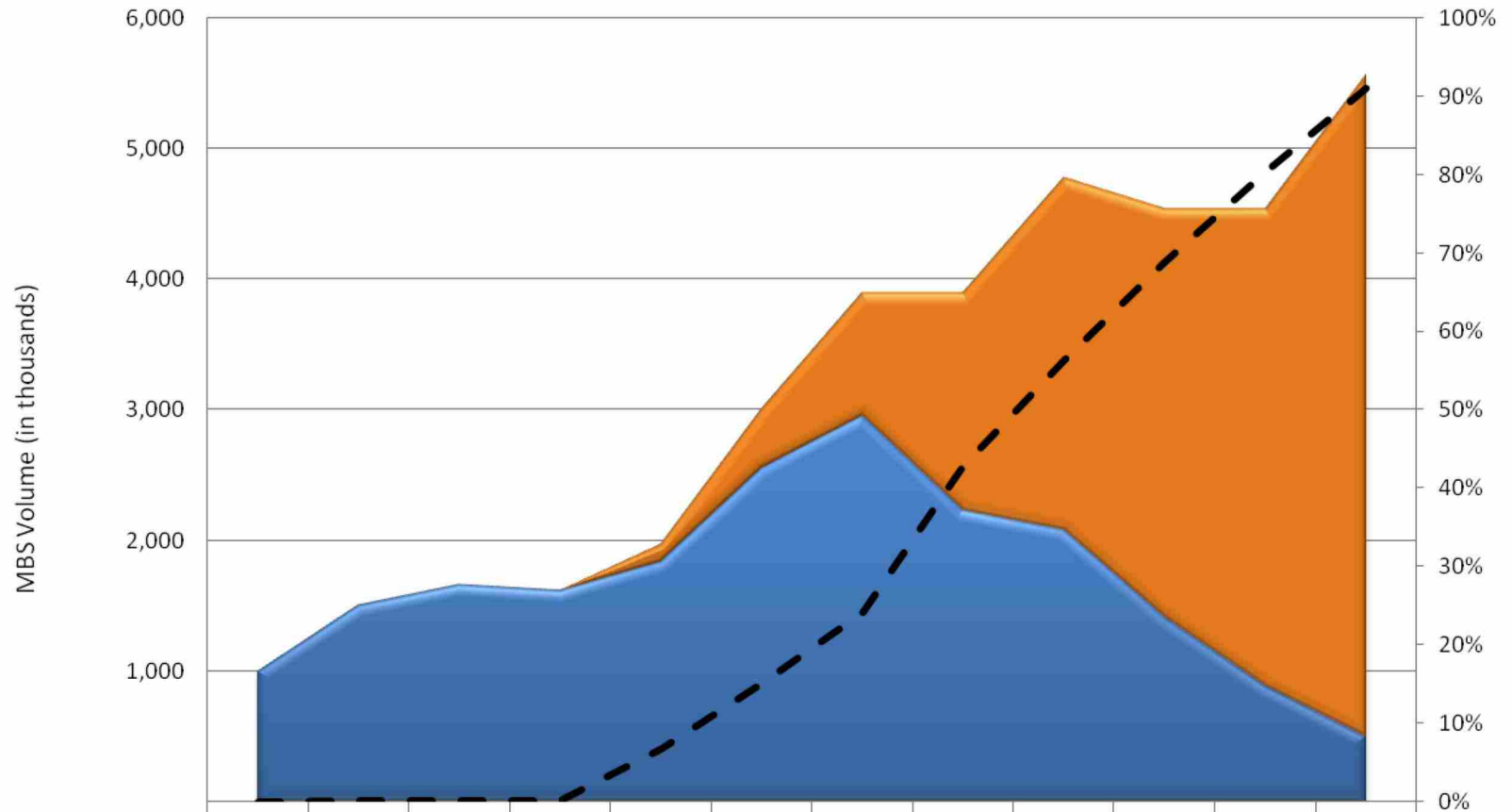
SBS SAD Readiness Checklist




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Product Name: GrenadaBP SBS SAD	Date: 03/22/2012		
Criteria	Status/Exceptions	FW function	Met?
Changes to FW deliverables reviewed and documented	Thermal testing passed with CCD4 & VJIT	All	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
F3			
All F3 P0 and P1 issues closed		F3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Performance targets achieved	CCD4 meets performance and power metrics	F3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Test Process			
All Process P0 and P1 issues closed		TP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Test Times meet FW CTU Declare maturity metrics		TP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Yields meet FW CTU Declare maturity metrics		TP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Validate plan to hit Ramp Test time and Yield targets		All	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
SIE			
Pre-JQ and Quals progressing to plan	CCD4 code has passed JQ testing	SIE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
SIE maturity metrics on target	CCD4 code meets metrics	SIE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Drive quantities meeting expectations		SIE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Testing factory PCO'd drives		SIE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Tracking to FW Master Program Schedule		All	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Criteria defined in Qual Review		All	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
Lessons Learned Documented		All	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO
FW ready to achieve SBS SAD Declare			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO



Grenada Classic to Blockpoint Transition



 GrenadaBP Total		2	1	2	134	455	945	1,667	2,697	3,125	3,651	5,065
 Grenada Classic Total	997	1,504	1,661	1,617	1,839	2,554	2,954	2,232	2,082	1,416	890	501
 GrenadaBP 90% PTC	0%	0%	0%	0%	7%	15%	24%	43%	56%	69%	80%	91%

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Grenada (BlockPoint) 2TB/3TB (GPF2ZZ.CCD4.AA0L00.ZZZZ.x6D9) - Smoke Test

- ✓ Rockit 3.5" USB 2.0.....100% Complete
- ✓ Rockit 3.5" USB 3.0.....100% Complete
- ✓ Rockit 3.5" FW800.....100% Complete
- ✓ Performance.....Completed

ISSUE: ***No new issues or concerns found***

Grenada BP Thermals in Enclosures				
		Rockit V2 USB 3.0		
		Drive temp(°C)	Ambient temp(°C)	Delta(°C)
KTGBD20095A	Z1D0DYTJ	46.2	20.6	25.6
	Z1D0DYCY	47.6	20.5	27.1
	Z1D0DYT4	48.1	20.8	27.3
KTGBD40102A	Z1E09ZE7	47.4	20.6	26.8
	Z1E09ZE1	50.8	20.8	30
	Z1E09ZHX	49.8	20.4	29.4
KTGBD60104AG	Z1F0FVQR	54.3	20.5	33.8
	Z1F0FVPW	53.5	20.9	32.6
	Z1F0FVNO	54.9	20.8	34.1



SBS ODM Qual Testing

Desk V2 Grenada BP HDD Qual performance test:

Desk V2 GL3310(Grenada BP HDD) Performance

S/N	Item	Software	HD Tune (Read)(MB/s)			HD Tune (Write)(MB/s)			Winbench99 test (MB/s)								Conclusion /Remark
	I/F	Min.	Max.	Aver.	Min.	Max.	Aver.	Begin				End					
								1st	2nd	3rd	4th	1st	2nd	3rd	4th		
V2 GL3310 USB3.0+Grenada BP 1TB HDD																	
1# S/N: Z1D12ZQP	I/F:USB3.0	90.5	178.1	157	89.7	157.1	143	195.0	140.0			147.0	103.0			PASS	
	I/F: USB2.0	31.3	33.3	33.2	25.9	28.2	27.8	34.7	34.7			34.7	34.7				
V2 GL3310 USB3.0+Grenada BP 2TB HDD																	
2# S/N: Z1E0D2Z5	I/F:USB3.0	99.4	187.2	164.1	97.1	181.0	158.2	191.0	190.0	145.0		190.0	149.0	106.0		PASS	
	I/F: USB2.0	32.0	33.3	33.3	27.1	29.1	28.8	34.8	29.9	34.8		30.0	34.7	34.8			
V2 GL3310 USB3.0+Grenada BP 3TB HDD																	
3# S/N: Z1F0HD2K	I/F:USB3.0	95.7	150.7	143.0	94.2	155.6	144.4	159.0	164.0	160.0	142.0	159.0	160.0	145.0	104.0	PASS	
	I/F: USB2.0	31.8	33.0	32.8	25.6	27.9	27.6	34.6	34.7	29.9	34.7	34.6	29.8	34.6	34.6		

Desk V2 ASM1051(Grenada BP HDD) Performance

S/N	Item	Software	HD Tune (Read)(MB/s)			HD Tune (Write)(MB/s)			Winbench99 test (MB/s)								Conclusion /Remark
	I/F	Min.	Max.	Aver.	Min.	Max.	Aver.	Begin				End					
								1st	2nd	3rd	4th	1st	2nd	3rd	4th		
Asmedia 1051 USB3.0+Grenada BP 1TB																	
4# S/N: Z1D12ZRM	I/F:USB3.0	95.0	166.1	152.1	93.0	154.0	142.1	177.0	140.0			147.0	104.0			PASS	
	I/F: USB2.0	32.7	33.3	33.3	26.9	29.4	29.2	34.6	34.5			34.6	34.6				
Asmedia 1051 USB3.0+Grenada BP 2TB																	
5# S/N: Z1E0DMW9	I/F:USB3.0	99.0	167.5	155.7	97.1	153.1	143.3	186.0	182.0	146.0		187.0	152.0	107.0		PASS	
	I/F: USB2.0	32.8	33.3	33.3	28.1	29.4	29.1	34.7	32.5	34.8		32.5	34.8	34.8			
Asmedia 1051 USB3.0+Grenada BP 3TB																	
6# S/N: Z1F0HD3D	I/F:USB3.0	93.0	172.8	153.0	91.0	171.9	150.4	181.0	180.0	172.0	140.0	181.0	174.0	143.0	104.0	PASS	
	I/F: USB2.0	30.6	33.3	32.7	27.7	29.3	29.2	34.8	34.7	32.6	34.8	34.8	32.6	34.8	34.8		

Desk V2 INI1615(Grenada BP HDD) Performance

S/N	Item	Software	HD Tune (Read)(MB/s)			HD Tune (Write)(MB/s)			Winbench99 test (MB/s)								Conclusion /Remark
	I/F	Min.	Max.	Aver.	Min.	Max.	Aver.	Begin				End					
								1st	2nd	3rd	4th	1st	2nd	3rd	4th		
INI1615 FW800/USB2.0+Grenada BP 1TB																	
7# S/N: Z1D12ZT2	I/F:1394B	75.3	77.3	77.2	48.6	54.5	53.7	83.9	83.9			83.9	83.9			PASS	
	I/F: USB2.0	32.6	33.3	33.3	26.6	29.4	29.2	34.9	34.9			34.9	34.9				
INI1615 FW800/USB2.0+Grenada BP 2TB																	
8# S/N: Z1E0DMVJ	I/F:1394B	75.0	76.9	76.8	49.9	54.3	53.5	83.5	83.5	83.5		83.6	83.5	83.5		PASS	
	I/F: USB2.0	30.6	3.3	32.7	26.7	29.4	29.2	34.9	32.7	34.9		32.8	34.9	34.9			
INI1615 FW800/USB2.0+Grenada BP 3TB																	
9# S/N: Z1F0HW7X	I/F:1394B	69.3	70.9	70.8	46.9	51.6	51.2	77.7	77.8	77.7	77.7	77.7	77.7	77.7		PASS	
	I/F: USB2.0	32.5	33.3	33.3	26.8	29.4	29.3	34.9	34.9	32.6	34.9	34.9	32.8	34.9	34.9		